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REMARKS

Remarks to follow are numbered to correspond with the several numbered points of the subject office action.

1. Examiner states, with reference to the "upper and lower values of the methanol in the methanol/water mix" recited by claims 5 and 25, that there "does not appear to be a specific disclosure of these values in the specification." Examiner points to page 15, line 19 which discloses a methanol concentration "between 1 and 100%," and then concludes that "the recitation of the individual values in the claims does not appear to be properly supported by the specification in its current state," and requires correction. It is noted for reference that claims 5 and 25 specify "a lower range boundary selected from the lower range boundary group consisting of: 2%, and 1% of said fuel mix; and an upper range boundary selected from the upper range boundary group consisting of: 5%, 10%, 15%, 30%, 50%, 75%, 90%, and 100% of said fuel mix."

Applicants respectfully direct examiner to page 5, line 13 of the specification, which discloses as follows: "A 3% methanol, 97% water mixture is typical using current technology and load requirements. However, it is anticipated that over the longer term, *this concentration might be as low as 2% or even 1%, but may become substantially higher as advances in the fuel cell 1, the electrolyte 13, and the ancillary systems are realized. As such, variations in methanol concentration are to be considered within the scope of this disclosure and its associated claims, and these may run as high as 5%, 10%, 15%,*

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30%, 50%, 75%, 90%, and even 100% as the fuel cell 1 and fuel cell system technology progresses." (emphasis added) These are precisely the values recited by claims 5 and 25. This discussion of methanol values is then later referred to several
5 times in the specification, e.g., at page 12, line 23; page 13, lines 18-20; and page 16, line 11.

It appears from this that examiner may have simply overlooked this discussion beginning at page 5, line 13, and that if examiner had been aware of this discussion, examiner
10 would have in all likelihood concluded that claims 5 and 25 do indeed contain proper support in the specification. Applicants therefore respectfully request a finding by examiner that the specification in its current state does indeed support claims 5 and 25.

15 2-3. Examiner states that "claims 5 and 25 fail to properly limit parent claims 3 and 23, which require the presence of both methanol and water." Claims 3 and 23 both specify "said source fuel comprising methanol, and said diluting fluid comprising water," while their dependent claims 5 and 25 specify that "said
20 methanol and water are *mixed into said fuel mix* such that said desired mixing proportion of said methanol within said fuel mix is within a range comprising: a lower range boundary selected from the lower range boundary group consisting of: 2%, and 1% of said fuel mix; and an upper range boundary selected from the
25 upper range boundary group consisting of: 5%, 10%, 15%, 30%, 50%, 75%, 90%, and 100% of said fuel mix." (emphasis added)

It is important to differentiate the *presence* of both

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methanol and water for mixing into the fuel mix, from the actual percentages values with which the methanol and water are mixed into the fuel mix by applicants' invention, i.e., from the *mixing proportions*.

5 For instance, the methanol range used in applicants' invention approaches 100% (as was clearly discussed in the disclosure), then claims 3 and 23 specify that both methanol and water will still indeed be *present* for use by such a system, as examiner suggests, but claims 5 and 25 make clear that one
10 mixing possibility for these two ingredients - the 100% mixing possibility - is for the flow of water to be completely shut off by the system, so that feed to the fuel mix during that shutoff comprises a 100% methanol feed.

Thus, consider a situation where the "desired mixing
15 proportion" comprises, say, 99% methanol and 1% water. Consider then, that the dielectric detection system determines that the actual fuel mix comprises 98% methanol and 2% water, and thus that more methanol needs to be added. The system may well turn off the water feed entirely and feed 100% methanol into the fuel
20 mix, until it sees that the fuel mix now comprises the desired mixing proportion of 99% methanol and 1% water, at which time it will again feed the water into the fuel mix in some small percentage of water again. This can even occur for a desired mixing proportion well below 100% methanol. Say, for example,
25 in present-day a system that requires a fuel mix with 3% methanol, it is detected that the methanol level has dropped to 1%. The controller could very well conclude that the best way

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to make up this shortfall quickly is to inject a brief shot of pure methanol (100%) into the fuel mix, and then, as soon as a 3% mix is actually detected in the fuel mix by the dielectric sensor, to revert back to a feed of 3% methanol and 97% water.

5 But even when the desired mixing proportion is 100% methanol, both methanol and water do remain available for mixing. Claims 3 and 23 specify that water and methanol are both available for mixing (as well as the fact that the system is capable of mixing the methanol and the water based on dielectric
10 feedback, from claims 1 and 21). Claims 5 and 25 properly limit claims 3 and 23 by specifying that one option is for the system to activate a desired mixing proportion wherein only the methanol is flowed through into the fuel mix and the water is shut off from the fuel mix. Applicants, therefore, respectfully
15 request examiner's concurrence with this reading of claims 5 and 25, and a finding that claims 5 and 25 do properly limit claims 3 and 23, thus overcoming the 35 USC 112 rejection. Further, since there are no other objections raised to claims 5 and 25, applicants respectfully request allowance of claims 5 and 25 at
20 this time.

4-5. As regards claims 20 and 40, it is important to distinguish between adding fluid to the supply, versus ordering a *source fuel refill*. Edlund states that "[i]f the fuel drops below a selected level, the controller may direct additional
25 fluid to be added to the supply, such as from a external source (not shown)." On page 23, lines 3-9, applicants similarly disclose that "[i]n an automatic fuel replenishment embodiment,

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the overall fuel cell system comprises a source fuel reservoir
326 containing extra source fuel which refills 328 fuel tank 302
whenever source fuel reservoir 326 receives a low fuel level
signal 336 from fuel tank control and logic module 324

5 indicating that the source fuel level in fuel tank 302 has
dropped below a desired source fuel level." In applicants'
view, it is this "source fuel reservoir 326" which is similar to
Edlund's "external source (not shown)." In particular,
applicants' source fuel reservoir and Edlund's external source
10 are both connected directly into the system so that the fuel
supply can be immediately replenished once it is detected to
have dropped below a certain level. This, however, is *not* what
is specified or covered by claims 20 and 40.

Rather, claims 20 and 40 cover the disclosure of page 23,
15 lines 10-16, which states that "[i]n another embodiment, for
devices such as telephones, computers, personal digital
assistants, and similar devices that have a telecommunications
link 334 such as a telephone or internet connection, fuel tank
control and logic module 324, once it has detected that the
20 source fuel 330 had dropped below a desired level, automatically
orders a source fuel 330 refill over telecommunications link
334." The language of claims 20 and 40 mirror this part of the
disclosure, by respectively specifying "a telecommunications
link for automatically ordering a refill of a source fuel for
25 said fuel cell system" and "automatically ordering a refill of a
source fuel for said fuel cell system over a telecommunications
link of said fuel cell system," both in response to "a

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measurement of how much of said source fuel remains" in the fuel tank. The discussion of page 23, lines 16-19 further notes that "[f]or using fuel cell systems to power devices which do not have such a telecommunications link **334** already, such a

5 telecommunications link **334** can be provided with, and as part of, the overall fuel cell system."

Claims 20 and 40 thus distinguish over the Edlund disclosure because Edlund's "controller may direct" that there be "additional fluid to be added to the supply" similarly to

10 what applicants state on page 23, lines 3-9; while applicants' system as encompassed by claims 20 and 40 is "ordering" a "refill" as specified on page 23, lines 10-16. This distinctiveness hinges, in particular, on the interpretation of the words "ordering" and "refill" in applicants' claims 20 and

15 40. The juxtaposition of applicants' page 23, lines 10-16 discussion relative to applicants' page 23, lines 3-9 discussion makes clear that "ordering" a refill is to be interpreted in terms of placing an order for a fuel source to a vendor or other similar supplier of fuel sources, as opposed to issuing a

20 command that causes fuel to be added to the supply from an external source directly connected to the fuel cell system per Edlund and per applicants' page 23, lines 3-9. Similarly, this juxtaposition makes it clear that the "refill" in applicant's disclosure and claims is a noun to be interpreted in terms of a

25 cartridge or similar container which contains a supply of fuel and which, once received following its ordering, can be connected into the fuel cell system. This is as opposed to

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interpreting "refill" as a verb akin to adding fluid to the supply per Edlund and per applicants' page 23, lines 3-9.

Stated differently, the juxtaposition of applicants' page 23, lines 10-16 discussion relative to applicants' page 23, lines 3-9 discussion, and the mirroring of the page 23, lines 10-16 discussion in the language of claims 20 and 40, make clear that the term "ordering a refill" in claims 20 and 40 is to be interpreted narrowly in the sense of placing an order to a remote supplier of fuel to receive a fuel cartridge or similar container that is received at a later time and can be then connected into the fuel cell system. Conversely, it is clear from the context, and applicants are willing to hereby concede on record, that the term "ordering a refill" in claims 20 and 40 is not to be interpreted in the broader sense of a controller directing that the fuel be added to the supply from an external fuel source directly connected to the fuel cell system. This is what is disclosed by Edlund, this is what applicants disclose on page 23, lines 3-9, and applicants make and have made no attempt to claim the subject matter of page 23, lines 3-9 or of Edlund, as an independent claim separate from other aspects of applicants' invention.

As a consequence of the foregoing, and in particular on the basis of applicants' concession explicitly narrowing of the interpretation of claims 20 and 40 as set forth above, applicants respectfully request allowance of claims 20 and 40 over Edlund.

6. Applicants very much appreciate the allowance of claims 1-

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4, 6-19, 21-24, and 26-39.

7. Based on the discussion of points 2 and 3, applicants again respectfully request allowance of claims 5 and 25.

5

CLAIMS AMENDMENTS, NEWLY-ADDED CLAIMS

Claims 4, 5, 6, 24, 25 and 26 are amended of applicants' own initiative, simply to change the article preceding "desired mixing proportion" from "a" to "said," because "desired mixing proportion" had already been previously introduced. This amendment corrects a simple error not previously detected in proofreading either by applicants' counsel or examiner, and is not made for any reason that would give rise to an estoppel. There is no narrowing of the scope of these claims or surrender of equivalents for a reason related to patentability by this amendment. Following the Supreme Court's recent decision in *Festo*, "the rationale underlying the amendment [bears] no more than a tangential relation" to any equivalents that may come into question regarding claims 4, 5, 6, 24, 25 and 26, and so while there should be no presumptive loss of equivalents in the first place, any presumptive loss of equivalents that may occur from this amendment should be easily rebuttable.

Dependent claims 41 and 42 are newly-added with this reply. Claims 41 is similar to existing claim 5, and claim 42 is similar to existing claim 25, but these new claims eliminate intermediate dependent claims 3 and 23 which specify the "source fuel comprising methanol" and the "diluting fluid comprising water." Thus, the percentages in claims 41 and 42 are more

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broadly specified in relation to "source fuel" and "diluting fluid" rather than in relation to "methanol" and "water." In addition to their own points of patentable distinction, because claims 41 and 42 are dependent on allowed claims 1 and 21, and

5 because these claims properly limit claims 1 and 21 under 35 USC 112 for the same reasons discussed in points 2 and 3, applicants respectfully request allowance of these new claims 41 and 42 in addition to pending claims 1 through 40.

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

1 4. (amended) The system of claim 3, wherein said methanol and
2 | water are mixed into said fuel mix such that said ~~a~~-desired
3 | mixing proportion of said methanol within said fuel mix is
4 | determined based upon particular technologies used for said fuel
5 | cell and said fuel cell system.

1 5. (amended) The system of claim 3, wherein said methanol and
2 | water are mixed into said fuel mix such that said ~~a~~-desired
3 | mixing proportion of said methanol within said fuel mix is
4 | within a range comprising:

5 | a lower range boundary selected from the lower range
6 | boundary group consisting of: 2%, and 1% of said fuel mix; and
7 | an upper range boundary selected from the upper range
8 | boundary group consisting of: 5%, 10%, 15%, 30%, 50%, 75%, 90%,
9 | and 100% of said fuel mix.

1 | 6. (amended) The system of claim 3, wherein said ~~a~~-desired
2 | mixing proportion of said methanol within said fuel mix is
3 | approximately 3% of said fuel mix.

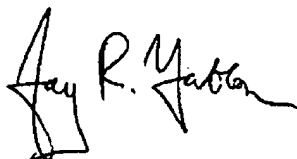
1 24. (amended) The method of claim 23, further comprising the
2 | step of mixing said methanol and water into said fuel mix
3 | wherein said ~~a~~-desired mixing proportion of said methanol within
4 | said fuel mix is determined based upon particular technologies
5 | used for said fuel cell and said fuel cell system.

1 25. (amended) The method of claim 23, further comprising the
2 | step of mixing said methanol and water into said fuel mix
3 | wherein said ~~a~~-desired mixing proportion of said methanol within
4 | said fuel mix is within a range comprising:

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5 a lower range boundary selected from the lower range
6 boundary group consisting of: 2%, and 1% of said fuel mix; and
7 an upper range boundary selected from the upper range
8 boundary group consisting of: 5%, 10%, 15%, 30%, 50%, 75%, 90%,
9 and 100% of said fuel mix.
1 26. (amended) The method of claim 23, further comprising the
2 step of mixing said methanol into said fuel mix in said a-
3 desired mixing proportion of approximately 3% of said fuel mix.

Respectfully submitted,



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